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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/932,221

08/17/2001

Gang (Paul) Chen

SP01-235

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07/30/2004

CORNING INCORPORATED

SP-TI-3-1

CORNING, NY 14831

EXAMINER

NGUYEN, CHAU M

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 07/30/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/932,221

Applicant(s)

CHEN ET AL.

Examiner

Chau M Nguyen

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

### A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This Office action is in response to the Paper # 6 filed on 09 July, 2004.

***Election/Restrictions***

2. Applicant's election without traverse of Group II, which includes claims 9-19 in Paper No. 6 is acknowledged.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 18 is rejected under 35 U.S.C. 102(e) as being anticipated by Chen (U.S. Pat. No. 6,108,469).

As claim 18, Chen discloses a method of switching optical signals, said method comprising the steps of:

(a) switching the switching device (such as 701, fig. 7) to a pass through state (col. 5, lines 20-22);

(b) tuning a wavelength selective optical component (such as 702 and /or 703) to act on a specific signal wavelength (col. 5, lines 21-25); and

(c) switching the switching device (such as 704) to operate in a drop/ add state (col. 5, lines 26-31).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being obvious over Chen (U.S. Pat. No. 6,108,469).

As claim 19, actuator of Chen is a heater (Chen, col. 3, 19-22). Chen does not clearly show the claimed subject matter "actuator is tension actuator" and "actuator is compression actuator" However, it is not a result of an attempt by applicant to solve a problem but merely amounts to selection of expedients known to the artisan of ordinary skill as design choices. Therefore, it would have been obvious to one having ordinary skill in the art to use any kind of actuator to control the switch.

7. Claims 9, 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (U.S. Pat. No. 6,108,469), in view of Pafchek et al. (Hereinafter "Pafchek") (U.S. Pat. No. 6,699,544 B2).

As claim 9, Chen discloses a adjustable optical switching device (fig. 8) comprising:

- (a) an input port (left side of fig. 8) and an output port (right side);
- (b) a first optical waveguide (upper connection from 701 to 704);
- (c) a second optical waveguide (lower connection from 701 to 704), said second optical waveguide having a wavelength tunable, wavelength selectable optical component (703) (col. 5, lines 63-67 and line 40);
- (d) a first switch (701) coupled to said first or said second optical waveguide for coupling signal light from said input port into one or another of said waveguides; and
- (e) a second switch (704) coupled to said first or said second optical waveguide for coupling said signal light from one of said first and second optical waveguides into said output port.

Chen does not clearly discloses the (first and second) switch which is selectively. However, Pafchek discloses the couplers (20, 22) (switches) are selective or controllable (see fig. 1) (Pafchek, col. 4, lines 56-67 and col. 5, lines 38-53). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to use coupler(s) as taught by Pafchek as switch device into the system of Chen in order to route signal. One would have motivated for doing this since with controllable features, its enhance the flexibility of the system, to overcome the insertion loss (col. 5, lines 1-15).

As claim 11, wavelength selectable optical component of Chen is grating (Abstract).

As claims 12 and 13, both Chen (fig. 8) and Pafchek (fig. 1) show 2x2 switch.

As claim 14, Chen shows switching device, further comprising:

(a) a wavelength selector (703); and

(b) a wavelength switch controller (actuator) (205, detailed in fig. 2, col.3, lines 55-59) (col. 5, lines 63-67).

As claim 15, actuator of Chen is a heater (Chen, col. 3, 19-22).

As claims 16 and 17, Chen does not clearly show the claimed subject matter "actuator is tension actuator" and "actuator is compression actuator" However, it is not a result of an attempt by applicant to solve a problem but merely amounts to selection of expedients known to the artisan of ordinary skill as design choices. Therefore, it would have been obvious to one having ordinary skill in the art to use any kind of actuator to control the switch.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (U.S. Pat. No. 6,108,469), in view of Pafchek (U.S. Pat. No. 6,699,544 B2), as applied in the claim 9, and in further view of Zhao et al. (Hereinafter "Zhao") (U.S. Pat. No. 6,490,391 B1).

As claim 10, the combination system of Chen and Pafchek does not clearly show the waveguides to be optical fibers. However, Zhao discloses optical fibers to be used as waveguides for switching process (such as 1820, see fig. 18, col. 10, lines 64-67).

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Therefore, it would have been obvious to one having ordinary skill in the art to use optical fiber as taught by Zhao into the combination system of Chen and Pafchek in order to route optical signal. One would have motivated for using optical fiber hence the adjustable fibers provide dynamic and reconfigurable operations (col. 13, lines 52-54).

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hatayama et al. (U.S. Pat. No. 6,560,381 B2) is cited to show optical filter.

Hatayama et al. (U.S. Pat. No. 6,333,807 B1) is cited to show optical filter.

Henry et al. (U.S. Pat. No. 5,636,309) is cited to show a planar optical waveguide device.

Henry et al. (U.S. Pat. No. 6,035,080) is cited to show reconfigurable add-drop multiplexer for optical communication systems.

Hung et al. (U.S. Pat. No. 6,587,239 B1) is cited to show optical fiber network having increased channel capacity.

Nakazawa et al. (U.S. Pat. No. 6,370,308 B1) is cited to show acousto-optical device.

Jain et al. (U.S. Pat. No. 6,221,565 B1) is cited to show tunable Bragg gratings and devices employing the same.

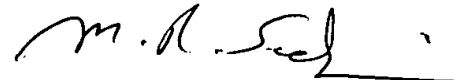
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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau M. Nguyen whose telephone number is 703-305-8965. The examiner can normally be reached on Mon-Fri from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4726. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

C.M.N.  
Jul. 23, 04

  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**